To Set a Network Repository Server on CentOS 7

To Set Up the Repository

- Here we are going to set in HTTP, so we need to install the httpd package first.

```
[root@linuxhelp ~]# yum install httpd -y
Loaded plugins: fastestmirror, langpacks
Loading mirror speeds from cached hostfile
 * base: centos.excellmedia.net
 * extras: centos.excellmedia.net
 * updates: centos.excellmedia.net
Resolving Dependencies
--> Running transaction check
.
.
.
Installed:
  httpd.x86_64 0:2.4.6-40.el7.centos
Dependency Installed:
  apr.x86_64 0:1.4.8-3.el7    apr-util.x86_64 0:1.5.2-6.el7    httpd-tools.x86_64
0:2.4.6-40.el7.centos    mailcap.noarch 0:2.1.41-2.el7

Complete!
```

- Run the following command to create directory, for the repository server

```
[root@linuxhelp ~]# mkdir /var/www/html/centos
```

- Now initialize the database by installing createrepo

```
[root@linuxhelp ~]# yum install createrepo -y
Loaded plugins: fastestmirror, langpacks
Loading mirror speeds from cached hostfile
 * base: centos.excellmedia.net
 * extras: centos.excellmedia.net
 * updates: centos.excellmedia.net
Resolving Dependencies
--> Running transaction check
.
.
.
Updated:
  createrepo.noarch 0:0.9.9-25.el7_2

Complete!
```

- Run the following command to start the database.

```
[root@linuxhelp ~]# createrepo /var/www/html/centos/
Saving Primary metadata
Saving file lists metadata
Saving other metadata
Generating sqlite DBs
Sqlite DBs complete
```

```
[root@linuxhelp ~]# ls -l /var/www/html/centos/
total 4
drwxr-xr-x. 2 root root 4096 Apr 27 17:44 repodata
[root@linuxhelp ~]# ls -l /var/www/html/centos/repodata/
total 28
-rw-r--r--. 1 root root  586 Apr 27 17:44
01a3b489a465bcac22a43492163df43451dc6ce47d27f66de289756b91635523-filelists.sqlite.bz2
-rw-r--r--. 1 root root  123 Apr 27 17:44
401dc19bda88c82c403423fb835844d64345f7e95f5b9835888189c03834cc93-filelists.xml.gz
```

```
-rw-r--r--. 1 root root 1131 Apr 27 17:44
5dc1e6e73c84803f059bb3065e684e56adfc289a7e398946574d79dac6643945-primary.sqlite.bz2
-rw-r--r--. 1 root root  123 Apr 27 17:44
6bf9672d0862e8ef8b8ff05a2fd0208a922b1f5978e6589d87944c88259cb670-other.xml.gz
-rw-r--r--. 1 root root  575 Apr 27 17:44
7c36572015e075add2b38b900837bcdbb8a504130ddff49b2351a7fc0affa3d4-other.sqlite.bz2
-rw-r--r--. 1 root root  134 Apr 27 17:44
dabe2ce5481d23de1f4f52bdcfee0f9af98316c9e0de2ce8123adeefa0dd08b9-primary.xml.gz
-rw-r--r--. 1 root root 2962 Apr 27 17:44 repomd.xml
```

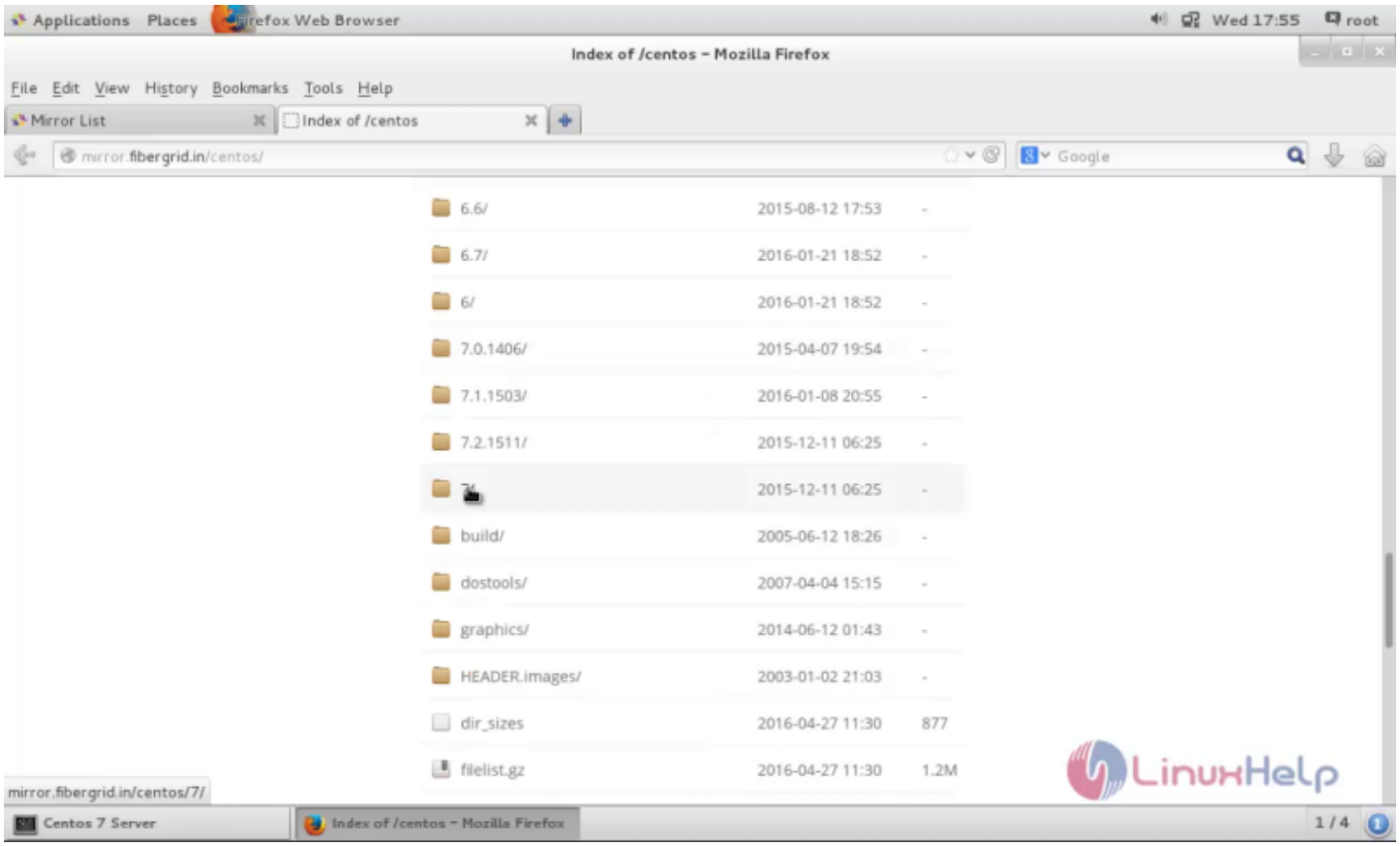
To Upgrade the Repository

- To upgrade it via internet, go to the CentOS download mirror and choose any link.

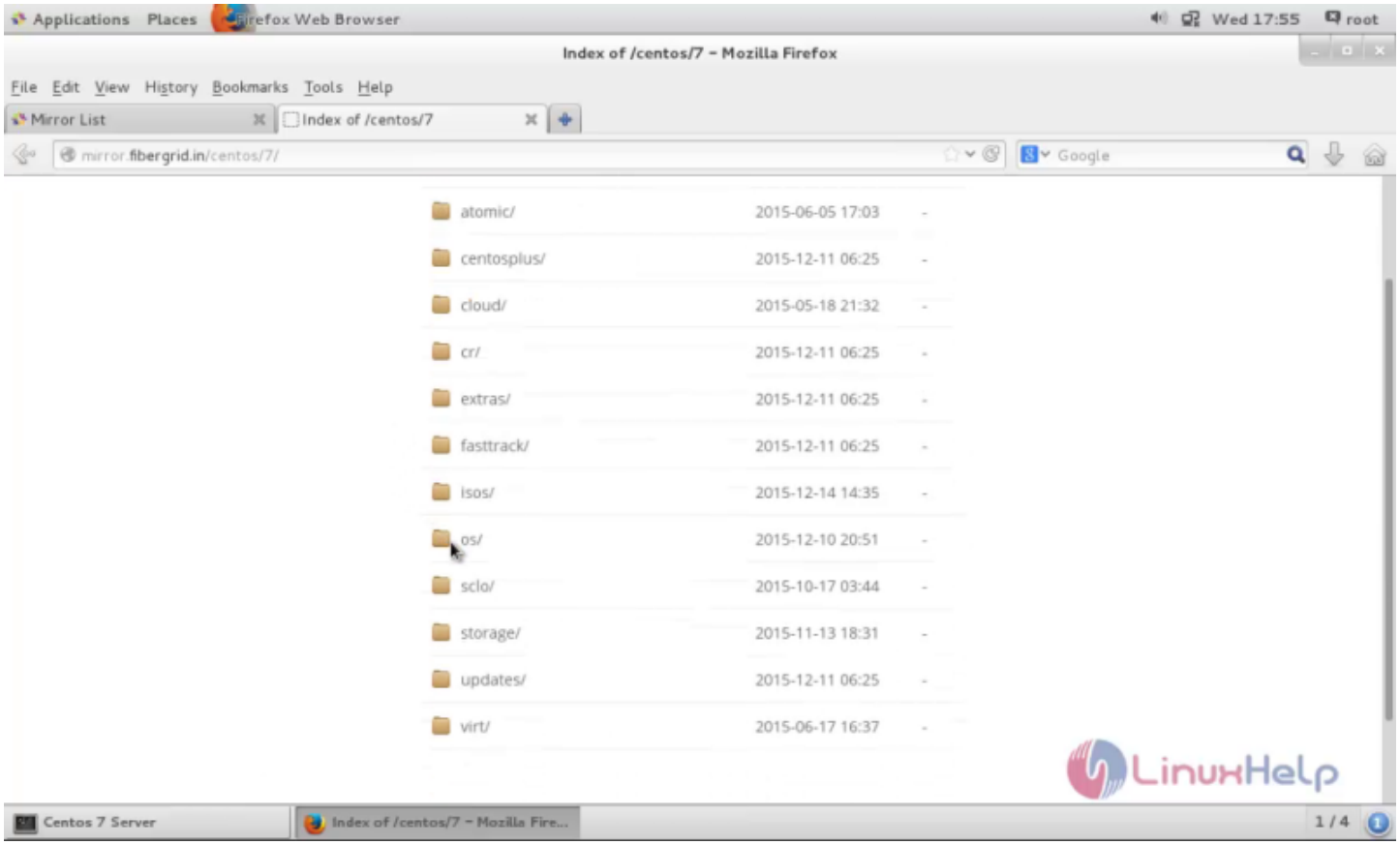
https://www.centos.org/download/mirrors/

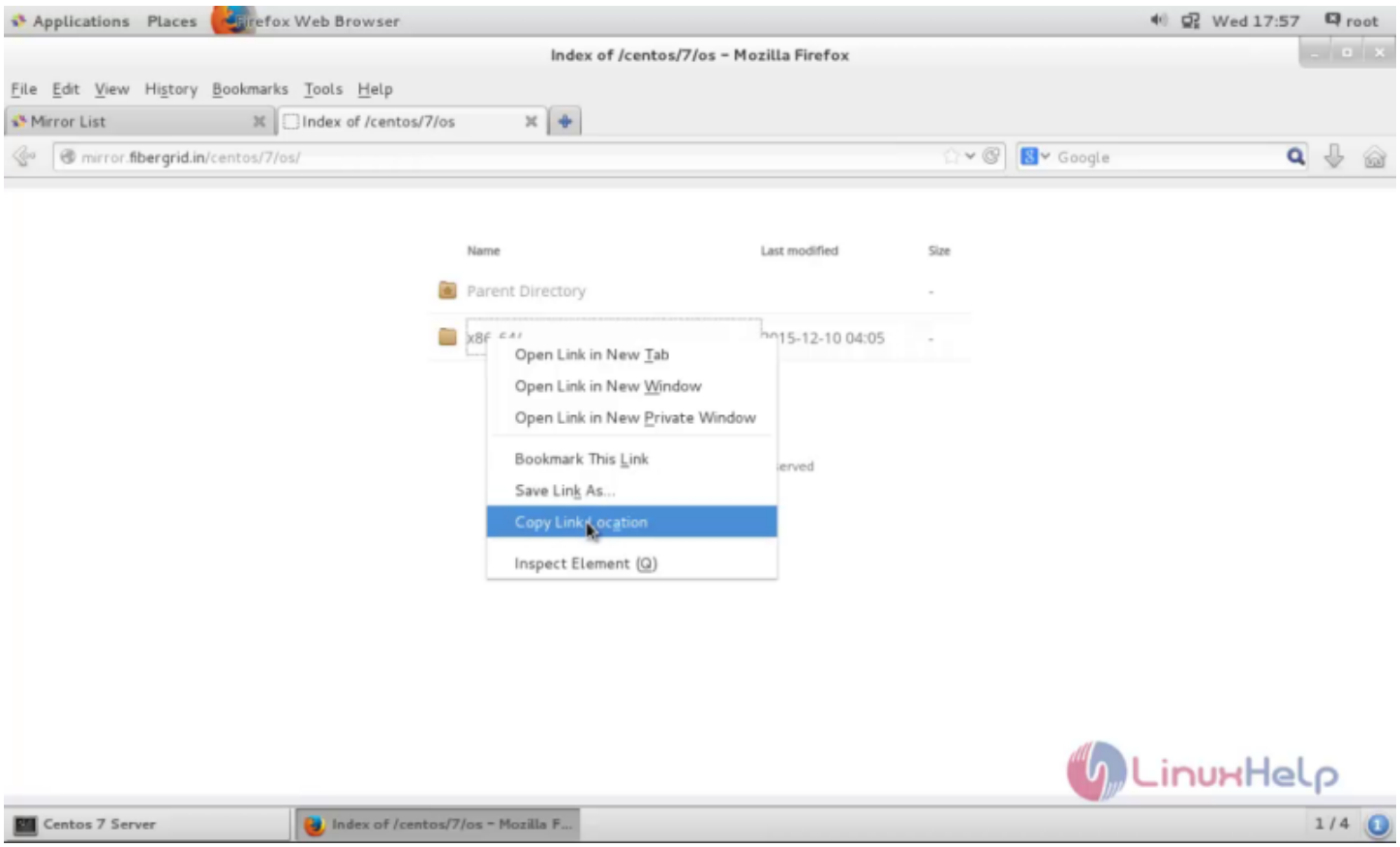
The link must be something like http://mirror.met.hu/centos/7/os/x86_64/ and not http://ba.mirror.garr.it/**mirrors**/CentOS/7/os/x86_64/

- Now choose your Version. In my case its Version 7.



- Open the OS directory, choose the required architecture and copy the link to download to the newly created directory inside the server.





- Now use the rsync command to transfer the contents to newly created directory inside the server.

```
[root@linuxhelp ~]# rsync -avz rsync://mirror.fibergrid.in/centos/7/os/x86_64/
/var/www/html/centos/
-------------------------------------------
    Fibergrid Open Source Projects Mirror
              Hyderabad, India
-------------------------------------------

receiving incremental file list
```

```
./
.discinfo
.treeinfo
.
.
EFI/BOOT/grubx64.efi
EFI/BOOT/fonts/
EFI/BOOT/fonts/unicode.pf2
LiveOS/
LiveOS/squashfs.img
```

- Use the following command to check the disk space after completing the download process.

```
[root@linuxhelp ~]# du -sch /var/www/html/centos/*
4.0K    /var/www/html/centos/CentOS_BuildTag
6.0M    /var/www/html/centos/EFI
4.0K    /var/www/html/centos/EULA
20K    /var/www/html/centos/GPL
.
.
4.0K    /var/www/html/centos/RPM-GPG-KEY-CentOS-7
4.0K    /var/www/html/centos/RPM-GPG-KEY-CentOS-Testing-7
4.0K    /var/www/html/centos/TRANS.TBL
4.0G    total
```

- Repositories database needs to be updated.

```
[root@linuxhelp ~]# createrepo --update /var/www/html/centos/
Spawning worker 0 with 3538 pkgs
Workers Finished
Saving Primary metadata
Saving file lists metadata
Saving other metadata
Generating sqlite DBs
Sqlite DBs complete
```

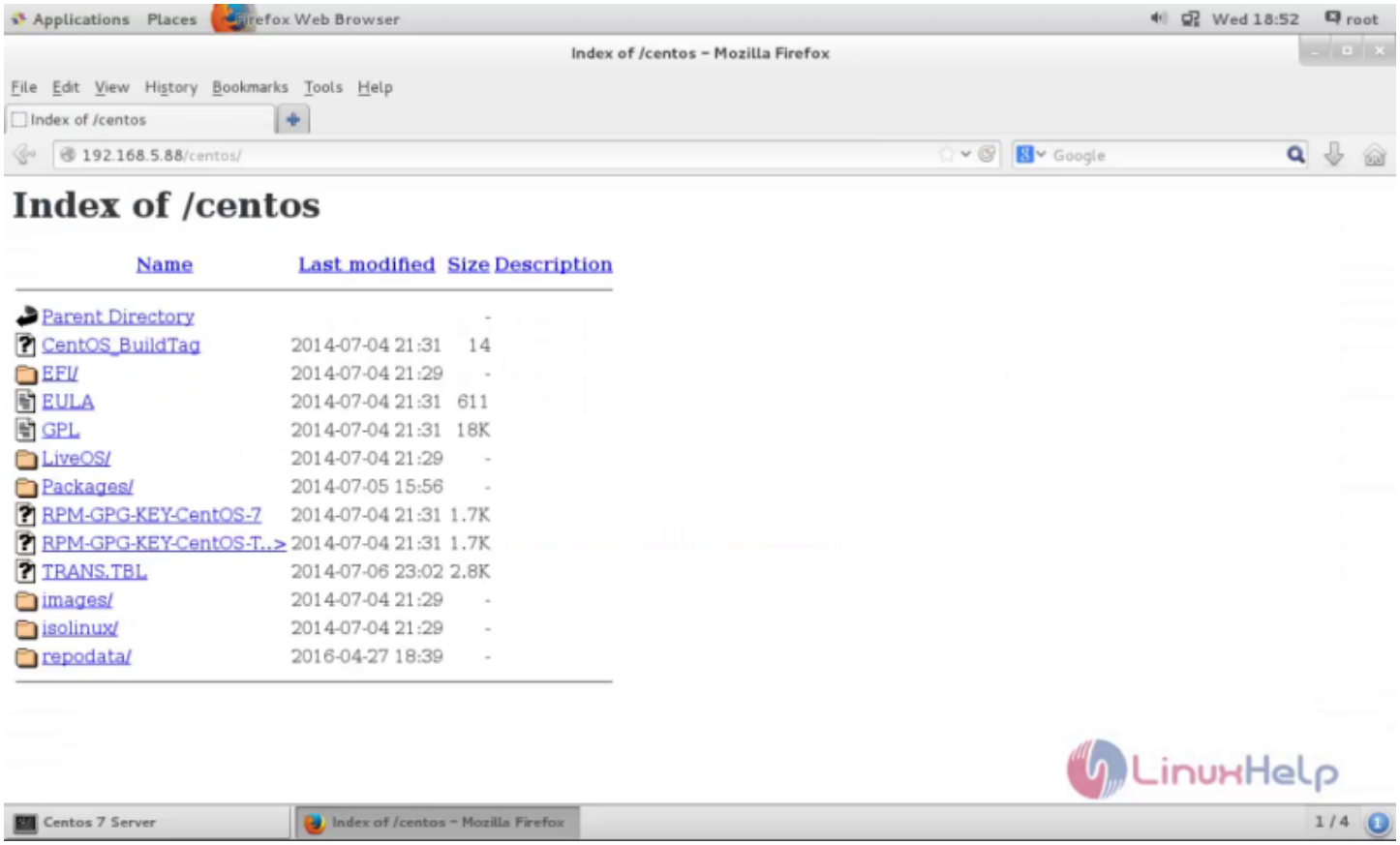
- Now start and enable the httpd service and open the port for HTTP in firewall using the following commands.

```
[root@linuxhelp ~]# systemctl start httpd
[root@linuxhelp ~]# systemctl enable httpd
ln -s '/usr/lib/systemd/system/httpd.service' '/etc/systemd/system/multi-
user.target.wants/httpd.service'
[root@linuxhelp ~]# systemctl status httpd
httpd.service - The Apache HTTP Server
   Loaded: loaded (/usr/lib/systemd/system/httpd.service; enabled)
   Active: active (running) since Wed 2016-04-27 18:44:24 IST; 3min 18s ago
     Docs: man:httpd(8)
           man:apachectl(8)
 Main PID: 40790 (httpd)
   Status: "Total requests: 0; Current requests/sec: 0; Current traffic:   0 B/sec"
   CGroup: /system.slice/httpd.service
           ??40790 /usr/sbin/httpd -DFOREGROUND
           ??40791 /usr/sbin/httpd -DFOREGROUND
           ??40792 /usr/sbin/httpd -DFOREGROUND
           ??40793 /usr/sbin/httpd -DFOREGROUND
           ??40794 /usr/sbin/httpd -DFOREGROUND
           ??40795 /usr/sbin/httpd -DFOREGROUND

Apr 27 18:44:24 linuxhelp httpd[40790]: AH00557: httpd: apr_sockaddr_info_get() failed for
linuxhelp
Apr 27 18:44:24 linuxhelp httpd[40790]: AH00558: httpd: Could not reliably determine the server's
fully qualified domain name, usi...message
Apr 27 18:44:24 linuxhelp systemd[1]: Started The Apache HTTP Server.
Hint: Some lines were ellipsized, use -l to show in full.
```

```
[root@linuxhelp ~]# firewall-cmd --permanent --add-service=http
success
[root@linuxhelp ~]# firewall-cmd --reload
success
```

- Use the browser to verify the contents in the directory.



To Configure the Client Machine

- In the /etc/yum.repos.d directory add the configuration files as follows.

```
[root@linuxhelp ~]# vim /etc/yum.repos.d/network.repo


Add the following lines to the configuration file.

[Network]
name=Network repo
baseurl=http://192.168.5.88/centos
enabled=1
gpgcheck=0
```

- Then clean and update the repository file.

```
[root@linuxhelp ~]# yum clean all
Loaded plugins: fastestmirror, langpacks
Cleaning repos: network
Cleaning up everything
Cleaning up list of fastest mirrors
[root@linuxhelp ~]# yum update all
Loaded plugins: fastestmirror, langpacks
network
| 2.9 kB  00:00:00
network/primary_db
| 2.7 MB  00:00:01
Determining fastest mirrors
No Match for argument: all
No package all available.
```

```
No packages marked for update
[root@linuxhelp ~]# yum repolist all
Loaded plugins: fastestmirror, langpacks
Loading mirror speeds from cached hostfile
repo id              repo name      status
network              network repo   enabled:3538
repolist: 3,538
```

- The repo which is created is displayed in the above output. Now install any package to check the repository is working fine or not.

```
[root@linuxhelp ~]# yum install httpd -y
Loaded plugins: fastestmirror, langpacks
Loading mirror speeds from cached hostfile
Resolving Dependencies
--> Running transaction check
---> Package httpd.x86_64 0:2.4.6-17.el7.centos.1 will be installed
.
.
.
Installed:
  httpd.x86_64 0:2.4.6-17.el7.centos.1
Dependency Installed:
  apr.x86_64 0:1.4.8-3.el7   apr-util.x86_64 0:1.5.2-6.el7   httpd-tools.x86_64
0:2.4.6-17.el7.centos.1   mailcap.noarch 0:2.1.41-2.el7

Complete!
```

The httpd package is installed from the server not from the internet.

To Keep the Repository up-to-date

- To keep the repositories up-to-date, set a cronjob by using rsync command to keep synchronizing new packages from the CentOS mirror server.

```
[root@linuxhelp ~]# crontab -e -u root
no crontab for root - using an empty one
crontab: installing new crontab
```

- Now add the following entry to the crontab file and save it to set a cronjob at every day morning 8:30 AM.

```
30 8 * * * rsync -avz rsync: http://mirror.fibergrid.in/centos/7/os/x86_64/ /var/www/html/centos/
```